

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended): A process for generating mammalian cells producing pancreatic hormone, comprising:

obtaining mammalian pluripotent stem cells from differentiated exocrine glandular tissue of an organism, wherein the mammalian pluripotent stem cells ~~have a capacity to~~ form organoid bodies;

cultivating and differentiating the mammalian pluripotent stem cells to generate the mammalian cells producing pancreatic hormone.

2. (Currently Amended): The process according to Claim 1, wherein the mammalian stem cells isolated ~~primarily~~ from the organism are cultivated and differentiated.

3. (Currently Amended): The process according to Claim 1, wherein the mammalian stem cells are provided as an aggregation in a form of organoid bodies.

4. (Currently Amended): The process according to Claim 3, wherein the differentiating of the mammalian stem cells is carried out in the organoid bodies.

5. (Currently Amended): The process according to Claim 3, wherein mammalian stem cells isolated ~~secondarily~~ from the organoid bodies are cultivated and differentiated.

6. (Currently Amended): The process according to Claim 1, further comprising a step of stimulating the ~~generating of~~ mammalian cells producing pancreatic hormone, said stimulating ~~comprising selected from the group consisting of:~~

providing supernatants of a primary culture of the endocrinal pancreas;
co-cultivation with cell lines of the endocrinal pancreas; and
treatment with immobilized or dissolved molecular differentiation factors provided in the liquid phase,

~~a stimulated propagation of~~
wherein the mammalian cells producing pancreatic hormone and/or a stimulated differentiation of the stem cells are stimulated.

7. (Currently Amended): The process according to Claim 6, wherein the stimulating step comprises:

- (a) at least one stimulation treatment selected from the group consisting of:
treatment with supernatants of a primary culture of endocrine pancreas,
treatment with supernatants of cell lines of endocrine pancreas,
co-culture with differentiated cells of endocrine pancreas,
co-culture with cell lines of endocrine pancreas, and
treatment with immobilized molecular growth factors,
- (b) activation of at least one gene involved in the differentiation of stem cells into the cells producing pancreatic hormone, and
- (c) treatment with molecular growth factors dissolved in a liquid.

8. (Previously Presented): The process according to Claim 7, wherein the treatment with immobilized molecular growth factors comprises a cellular imprinting with molecular differentiation factors immobilized on a carrier.

9. (Currently Amended): The process according to Claim 8, wherein the carrier is a synthetic substrate, a cell membrane or a three-dimensional matrix substrate.

10. (Currently Amended): The process according to Claim 1, further comprising identifying and selecting the mammalian cells producing pancreatic hormone.

11. (Currently Amended): The process according to Claim 10, wherein the selecting of the mammalian cells producing pancreatic hormone comprises a cell sorting process.

12. (Previously Presented) The process according to Claim 10, wherein non-identified and selected cells are subjected to a further cultivation and differentiation.

13. (Currently Amended): The process according to Claim 1, wherein the mammalian stem cells are obtained from secretory glands or glands of a gastrointestinal tract of the organism.

14. (Currently Amended): The process according to Claim 13, wherein the mammalian stem cells are obtained from a pancreas or a salivary gland of the organism.

15. (Currently Amended): The process according to Claim 1, wherein the mammalian stem cells are from glandular tissue that is acinar tissue.

16. (Currently Amended): The process according to Claim 1, wherein the mammalian stem cells are from a vertebrate.

17. (Currently Amended): The process according to Claim 16, wherein the mammalian stem cells are from a primate.

18. (Withdrawn): The process according to Claim 1, wherein the cells producing pancreatic hormone are used for pharmaceutical applications.

19. (Withdrawn): The process according to Claim 18, wherein the cells producing pancreatic hormone are used for treating pancreatic diseases, a metabolic syndrome or metabolic diseases.

20. (Withdrawn): The process according to Claim 19, wherein the cells producing pancreatic hormone are used for treating diabetes, hyperglycemia or impaired glucose tolerance.

21. (Withdrawn): The process according to Claim 1, wherein the cells producing pancreatic hormone produce insulin.

22. (Withdrawn): An isolated cell producing pancreatic hormone, the cell having been generated from a pluripotent stem cell isolated from differentiated exocrine glandular tissue of an organism, and having a capacity to form organoid bodies.

23. (Withdrawn): The isolated cell producing pancreatic hormone according to Claim 22, which is a human cell.

24. (Withdrawn): A cellular composition containing a plurality of cells producing pancreatic hormone according to Claim 22.

25. (Withdrawn): The cellular composition according to Claim 24, wherein the cells producing pancreatic hormone are generated by a process comprising cultivation and differentiation of pluripotent stem cells obtained from differentiated exocrine glandular tissue of an organism, and having a capacity to form organoid bodies.

26. (Withdrawn): The cellular composition according to Claim 24, which additionally contains other cell types.

27. (Withdrawn): The cellular composition according to Claim 26, wherein the other cell types comprise stem cells and/or neighboring cells of islets of Langerhans in pancreatic tissue.

28. (Withdrawn): The cellular composition according to one of Claim 24, which contains a casing or matrix material.

Claim 29-31 (Canceled).

32. (Withdrawn): Artificial islets of Langerhans containing a cell according to Claim 22.